ORDER

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

1830.6A

9/17/96

SUBJ: TELECOMMUNICATIONS ASSET MANAGEMENT

1. PURPOSE. This order establishes procedures, assigns responsibilities, and provides guidance regarding the assignment, engineering, and implementation of the Federal Aviation Administration (FAA) telecommunications assets. The term telecommunications as used in this order is specifically defined in paragraph 5. This order addresses the utilization of leased services and equipment as well as FAA-owned systems and equipment.

2. DISTRIBUTION. This order is distributed to the division level in Washington headquarters except Airway Facilities and Air Traffic Services; to the branch level in Airway Facilities and Air Traffic Services in Washington headquarters; to the division level in the regions except to the branch level in the regional Airway Facilities and Air Traffic Divisions; to the division level at the Aeronautical Center and the FAA Technical Center; and to all field offices with a limited distribution.

3. CANCELLATION. Order 1830.6 Telecommunications Asset Management, dated July 8, 1993, is canceled.

4. BACKGROUND.

a. For many years the United States telecommunications industry consisted of closely allied regulated telephone companies. The FAA depended on these companies to provide telecommunications circuits and equipment and to provide end-to-end telecommunications services. During this period, no FAA organization was assigned overall responsibility for telecommunications management and the functions were therefore assigned to several organizations.

b. The early and mid-1980's brought a change in national telecommunications policy and numerous changes to the telecommunications industry. Most equipment, circuits, and services were deregulated and competition developed. This action led to rapid technology changes with many new telecommunications products and services being made available. These events resulted in all users of telecommunications being required to assume a larger role in the management and operations of their services and systems and to make decisions that were not previously required.

c. To strengthen telecommunications program management, FAA established the Telecommunications Management and Operations (TM&O) Division in October 1987 as a significant step toward effective management and operations of the FAA's telecommunications networks (leased and FAA-owned). The TM&O's are responsible for providing management and operational oversight of all agency operational and administrative telecommunications and telecommunications resources, including the planning, network operations engineering, technical information, financial management functions, and project oversight.

5. DEFINITIONS.

a. **Telecommunications, General.** Telecommunications services include, without limitation, the transmission, emission, or reception of signals, signs, writing, sounds, or intelligence of any nature by wire, fiber optic cable, radio, visual, or other electrical, electromagnetic, or acoustically coupled means. Telecommunications facilities include equipment used for such modes of transmission as telephone, telegraph, teletypewriter, data, facsimile, satellite, radio, telephotography, video, audio, and respectively such corollary items as distribution systems and communications security facilities (41 CFR Subpart 101-37.105-1).

b. **Telecommunications Within the Purview of TM&O.** Telecommunications that are within the purview of the FAA Telecommunications Management and Operations (TM&O) offices are more limited than those defined by the Code of Federal Regulations and includes the transmission path and switching equipment required to send and/or receive voice, data, or video information

between facilities. The transmission paths include both leased services and FAA-owned services, such as the radio communications link (RCL). The management of telecommunications responsibilities is from the user facility's interfacility demarcation point, through and including the modems, in the case of selected multiplexed services. Where the interfacility services terminate in switching systems, such as private branch exchanges, these switches are also considered telecommunications responsibility even though these switches are after the demarcation point. Specifically excluded from this definition are those air/ground navigational aids and systems predominantly employing radio frequency media to satisfy the FAA's mission of air traffic control (ATC). All references to telecommunications contained in the body of this order should be interpreted according to this more limited definition of telecommunications. Where there are issues that do not appear to be covered, these should be dealt with on a case-by-case basis under memorandums of understanding among the parties involved at the regional level,

c. ATC Telecommunications. ATC telecommunications are defined as those telecommunications equipment and services associated with the regulation and protection of air traffic including 'national security commitments. Included are services and related equipment which provide either voice or data communications and which support en route, terminal, flight service/weather, and other ATC use. ATC telecommunications also encompass those telecommunications services necessary to support national emergency operations.

d. Agency Telecommunications. Agency telecommunications are FAA telecommunications which are not ATC telecommunications. Examples of agency telecommunications are office telephones and associated telephone switching systems, office facsimile machines, voice and video conferencing systems, and computer data communications supporting payroll and personnel data management systems, access to database management systems, and electronic mail. Networks which provide primarily agency telecommunications include the Federal Telecommunications System (FTS2000) and the Agency Data Telecommunications Network (ADTN-2000).

e. Secure Telecommunications. Secure telecommunications are those FAA telecommunications to which protective measures have

been taken to deny unauthorized persons information derived from telecommunications of the United States Government related to national security and to ensure the authenticity of such telecommunications. Such protection results from the application of security measures (including crypto security, transmission security, and emissions security) to electrical systems generating, handling, processing, or using national security or national security-related information.

6. SCOPE.

a. This order provides guidelines for the management of telecommunications assets used for operational ATC purposes within the National Airspace System (NAS) and the management of telecommunications assets used to support FAA functions. This order applies to the day-to-day NAS operations and maintenance activities or to the engineering and acquisition activities associated with major Capital Investment Plan (CIP) projects when the program office responsibilities are assigned to AOP-1.

b. For the purpose of this order, references to "regions" shall apply also to the TM&O offices at the FAA Technical Center and the Aeronautical Center.

7. TELECOMMUNICATIONS ASSETS. FAA telecommunications assets consist of telecommunications systems, service, and equipment, leased or owned, that support both ATC and agency functions. Management of these assets includes, but is not limited to, assignment of channels, ports, and circuits and is performed at the national level (AOP-1) or at the regional level (TM&O offices) depending generally on the scope of the specific asset. FAA telecommunications assets are managed as follows:

a. **National Telecommunications Assets.** The telecommunications assets designated to be under national management include, but are not limited to:

(1) RCL Network.

(2) Low density RCL (LDRCL) systems that cross regional boundaries, egress U.S. borders, or connect to the RCL.

(3) Data Multiplexing Network (DMN) Phase I/II (Paradyne Network).

(4) DMN Phase III (CODEX Network).

(5) Statistical multiplexing network (STATMUX).

(6) National Airspace Data Interchange Network (NADIN IA).

(7) NADIN II.

(8) Routing and circuit restoral (RCR) network.

(9) Voice switches provided by the voice switching and control system (VSCS) (e.g., integrated communications switching system (ICSS), small tower voice switch (STVS), enhanced terminal voice switch (ETVS)).

(10) Agency Date Telecommunications Network (ADTN2000).

(11) FAA telecommunications satellite (FAATSAT).

(12) FAA international satellite networks.

(13) Leased A and B service (LABS).

(14) Digital weather FAX (DIFAX).

(15) Electronic TANDEM network (ETN).

b. **Regional Telecommunications Assets.** The telecommunications assets designated to be under regional TM&O management include, but are not limited to:

(1) Leased interfacility NAS communications system (LINCS).

(2) Alaskan NAS interfacility communications systems (ANICS).

(3) FTS2000 voice, data, and video.

(4) Voice telecommunications system (VTS).

(5) Leased full period private lines.

(6) Exchange services (services using the public switched network).

(7) Telecommunications demarcation systems including master demarcation system (MDS) and mini telecommunications demarcation system (MTDS).

(8) Operational ATC switches and key systems.

(9) Administrative private branch exchanges (PBX) and key systems.

(10) Network terminating equipment (NTE) used with RCL and LDRCL.

(11) Circuit-related customer premise equipment (CPE).

(12) Automated line test equipment (ALTE).

(13) Network management and control equipment (NMCE).

(14) Cellular telephone equipment and services used for NAS operational service restoration.

(15) LDRCL systems within regional boundaries and not connected to the RCL or egressing U.S. borders.

c. **Non-TM&O Assets.** The telecommunications assets used in general office services are non-TM&O assets. These non-TM&O assets are not assigned to TM&O organizations for management, and therefore shall be justified, funded, and managed by using organizations. The regional TM&O office or HQ (AAD 50) will provide the necessary interfaces to existing ATC or agency telecommunications assets. The requiring or using organization will consult with the TM&O office to validate that an item is technically valid to fulfill its justified purpose and to establish service and connectivity. After the TM&O technical validation, the following items will initiate procurement through

their respective operating organizations utilizing applicable procurement procedures:

(1) Personal computer equipment and modems, LAN, Internet, hardware and associated software, only when not a requirement of a national telecommunications approved asset network (i.e. TIMS, NIMS, etc.).

(2) Facsimile machines (except weather DIFAX and others specifically approved and required to meet operational air traffic requirements).

(3) Pagers and paging services.

(4) Voice mail and telephone answering services.

(5) Telephone answering machines and recording devices.

(6) Publication of office telephone directories.

(7) Mobile radios.

(8) Cellular telephone equipment and services not used for operational ATC system restoration purposes.

(9) Specialized telephone instruments such as portable and cordless telephones; headsets for use on a PBX.

(10) Secure telephone equipment and devices.

(11) Airport distribution systems, such as cable and fiber optic loop systems.

(12) Telephone listings and/or subscriptions not associated with basic telephone services.

(13) Consumables supporting telecommunications equipment or services (paper, ribbons, etc.)

(14) Television studio equipment (except as available under FTS2000 contract).

(15) Building paging systems.

(16) Special feature telephone sets (non-standard).

(17) Headsets and handsets used in conjunction with operational ATC switches, voice switching and control system (VSCS), ICSS Phase 1B, STVS, and key systems.

8. ADVANCED PLANNING FOR TELECOMMUNICATIONS SERVICES.

a. **Identification and Collection of Requirements.** The TM&O offices in headquarters and the regions shall be responsible for the collection of all telecommunications requirements for the current fiscal year and the following 5 fiscal years as follows:

(1) AOP-1 shall maintain accurate records of all existing (embedded) telecommunications requirements and shall collect new ATC and agency telecommunications requirements as identified by other headquarters offices.

(a) **National ATC Requirements.** The telecommunications requirements of all NAS/CIP projects and all other ATC telecommunications requirements determined by ATR-1 (such as emergency communications, international communications, and certain experimental/prototype systems) shall be collected by AOP-1 in coordination with the responsible program or project managers. These requirements shall be summarized annually and published by AOP-1 in the Future NAS Telecommunications (Fuchsia) Book. Once these systems become operational/commissioned, the baseline system/services will be summarized annually and published by AOP-1 in the Current FAA Telecommunications Systems and Facility Description Manual (Currant Book).

(b) **National Agency Requirements.** All agency telecommunications requirements shall be collected by AOP-1 through coordination with the Office of Information Technology as well as other offices requiring services. These requirements shall be summarized annually and published by AOP-1 in the Future Agency Telecommunications (FAT) Book.

(2) The regional TM&O offices shall maintain accurate records of existing (embedded) requirements and shall collect new

ATC and agency telecommunications requirements as identified by other regional elements:

(a) **Regional ATC Requirements.** The telecommunications requirements of all F&E projects, local projects, other initiatives and/or as identified in the Fuchsia Book, as applicable within the individual region, shall be collected by the regional telecommunications organization (typically AXX-470). These requirements shall be entered by the regional TM&O into the telecommunications modules of the Regional Tracking Program (RTP) for review and validation by the appropriate program office.

(b) **Regional Agency Requirements.** All agency telecommunications requirements shall be collected by the regional TM&O offices for review and validation by AOP-1.

(3) AOP-1 is responsible for consolidating and correlating all telecommunications requirements as collected in headquarters and the regional offices.

b. **Asset Allocation Practices.** AOP-1 is responsible for establishing policy regarding the proper allocation of transmission assets thereby establishing the specific rules of asset allocation. This policy provides direction in matching user telecommunications requirements to available FAA telecommunications assets. Telecommunications Network Planning and Engineering Division, AOP-400, will define, document, publish, and periodically update detailed guidance, criteria, and procedures governing this practice.

c. **Advanced Allocation of New Requirements to Assets.** AOP-1 will project a tentative allocation of telecommunications assets to each new requirement set forth in the Fuchsia and FAT Books.. For example, a future requirement to connect flight data input and output (FDIO) processors located at towers to other FDIO computers at air route traffic control centers might be allocated to the DMN. These advance allocations will be included in the project chapters of the Fuchsia and FAT Books.

d. **Periodic Reallocation for Existing (Embedded) Requirements to Telecommunications Assets.** AOP-1 shall review on an annual

basis the existing configuration of telecommunications services. and shall initiate changes when beneficial

e. **Advanced Assignment of Specific Telecommunications Assets.** When feasible, AOP-1 may assign specific telecommunications assets (e.g., RCL channels; NADIN ports) to specifically identify future telecommunications requirements. These assets shall then be considered reserved for this future application.

f. **Advanced Planning.** Based upon all known current and future telecommunications requirements and upon the 'allocation of these requirements to telecommunications assets, AOP-1 shall project the overall requirements for national telecommunications assets for the current fiscal year and throughout the next 5 fiscal years. This report shall include the specific changes and new total configuration of each affected asset (e.g. RCL systems, segments, or drop-insert points; additional or moved modems) together with the months and years in which the changes must be effective. AOP-1 shall coordinate with all affected regions prior to finalizing this report.

9. **ESTABLISHMENT AND MODIFICATION OF NATIONAL TELECOMMUNICATIONS ASSETS.** AND-1 is responsible for implementing requested changes to national telecommunications assets.

10. **USE OF TELECOMMUNICATIONS ASSETS.**

a. **Regional Telecommunications Assets.** Whenever feasible, regions should conform to any advance allocations of telecommunications assets to requirements which are identified in planning documents such as the Fuchsia and FAT Books. The regional TM&O offices have the authority, however, to determine and specify the use of any regional telecommunications asset as defined herein. The regional TM&O offices are responsible for all assignments, engineering, and implementation of regional assets. When using regional telecommunications assets, the regions shall comply with established procedures for budgeting, ordering, and configuration management.

(1) Networks, systems, or circuits crossing regional boundaries shall be coordinated and implemented as a national asset.

(2) International networks, systems or circuits, where the far end is a foreign asset shall be coordinated and implemented as a national asset.

b. **National Telecommunications Assets.** Responsibility and authority for the assignment, engineering, and implementation of national telecommunications assets are assigned as follows:

(1) **Assignment of Assets (i.e., Channels, Ports, etc.).**

(a) **Emergency Use.** When the use of an available national telecommunications asset is required on an emergency basis such as to restore or continue existing functions within the NAS, the FAA facility manager or designee has the authority to assign and use that asset. However the asset must be returned to its prior status at the conclusion of the emergency condition.

(b) **Temporary Use.** When the use of an available national telecommunications asset is required on a temporary basis defined as 4 weeks or less, the regional TM&O offices have the authority to assign and direct the use of that asset. Possible temporary uses may include such requirements as air shows, equipment upgrades and cutovers, and special tests, However, the asset must be returned to its prior status at the conclusion of the temporary application.

(c) **All Other Uses.** Except for emergency or temporary uses (as described herein) no national telecommunications assets may be assigned or used without the expressed authorization of AOP-1. If AOP-1 has issued an advance assignment of a specific asset (as described herein), that advance assignment constitutes an authorization to use the asset for the specified requirement. Otherwise, use of a national telecommunications asset must be requested by means of a communications service request (CSR).

(2) **Circuit Engineering.** Any engineering associated with the use of a national telecommunications asset is the responsibility of AOP-1 and will be included as part of the advance planning or CSR processes.

(3) **Implementation Engineering and Installation.** Implementation of requirements using national telecommunications assets is a regional TM&O office responsibility. The regional TM&O office shall notify **AOP-1** within 2 weeks after newly installed services or equipment are operational.

11. MANAGEMENT **OF WASTE, FRAUD, AND ABUSE.** TM&O offices agency wide have the primary responsibility to ensure the most efficient use and application of the agency's telecommunications assets. **Special** emphasis shall be placed on eliminating systems, networks, or circuits that are considered duplications and not governed under the latest edition of Order 6000.36, Communications Diversity. Further attention shall be given to ensure telecommunications assets at closed and decommissioned facilities are properly terminated and DITCO charges dropped from the customer cost and obligation report. Leased circuits and equipment at any facility with limited or no use shall be revalidated to justify the requirement for retention or deletion.

12. OTHER **ASSET MANAGEMENT PRACTICES.** Asset management practices not specifically addressed in this order, such as property management, shall be governed by applicable directives.

13. EXCEPTIONS **OR WAIVERS.** Any exceptions or waivers to this order must be jointly approved by the regional Airway Facilities and TM&O Division Managers.

/s/
Stanley Rivers
Acting Director of Airway Facilities